



CITY OF WICHITA COMPREHENSIVE COST OF SERVICE ANALYSIS



Overarching COSA Objectives

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- Water and Sewer Utility Financial Viability
 - ▣ Sufficient revenue to fund operating expenditures
 - ▣ Sound funding base for CIP expenditures
 - ▣ Compliance with debt service coverage requirements

- Equitable and Effective Rates
 - ▣ Rates based on cost of service
 - ▣ Water rate design that addresses revenue volatility
 - ▣ Water rate design featuring conservation price signals

The COSA Process

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- Step 1: Understand Client Pricing Objectives
- Step 2: Comprehensive Financial Planning
 - ▣ Separate water and sewer financial plans
 - ▣ Entirely new – not based on HDR
 - ▣ Consolidated measurement of revenue bond debt service coverage
- Step 3: 2012 Revenue Requirement from Rates
 - ▣ Outcome of the financial planning process
- Step 4: 2012 Cost of Service Study
- Step 5: 2012 Proposed Rates
- Step 6: Forecast 2013 - 2016 Rates

Water Utility COSA

Water Pricing Objectives

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City of Wichita Water Pricing Objectives	
Objective	Ranking of Importance
Rate Stability	Tied for 1st in Importance
Revenue Stability	Tied for 1st in Importance
Cost of Service Recovery	Tied for 2nd in Importance
Minimizing Customer Impacts	Tied for 2nd in Importance
Conservation / Demand Management	Tied for 3rd in Importance
Equitable Contribution from New Customers	Tied for 3rd in Importance
Defensible	4th in Importance
Affordability to Disadvantaged Customers	5th in Importance
Easy to Implement	Tied for 6th in Importance
Easy to Update	Tied for 6th in Importance
Easy to Understand	Tied for 7th in Importance
Economic Development	Tied for 7th in Importance

Water Demand Forecast

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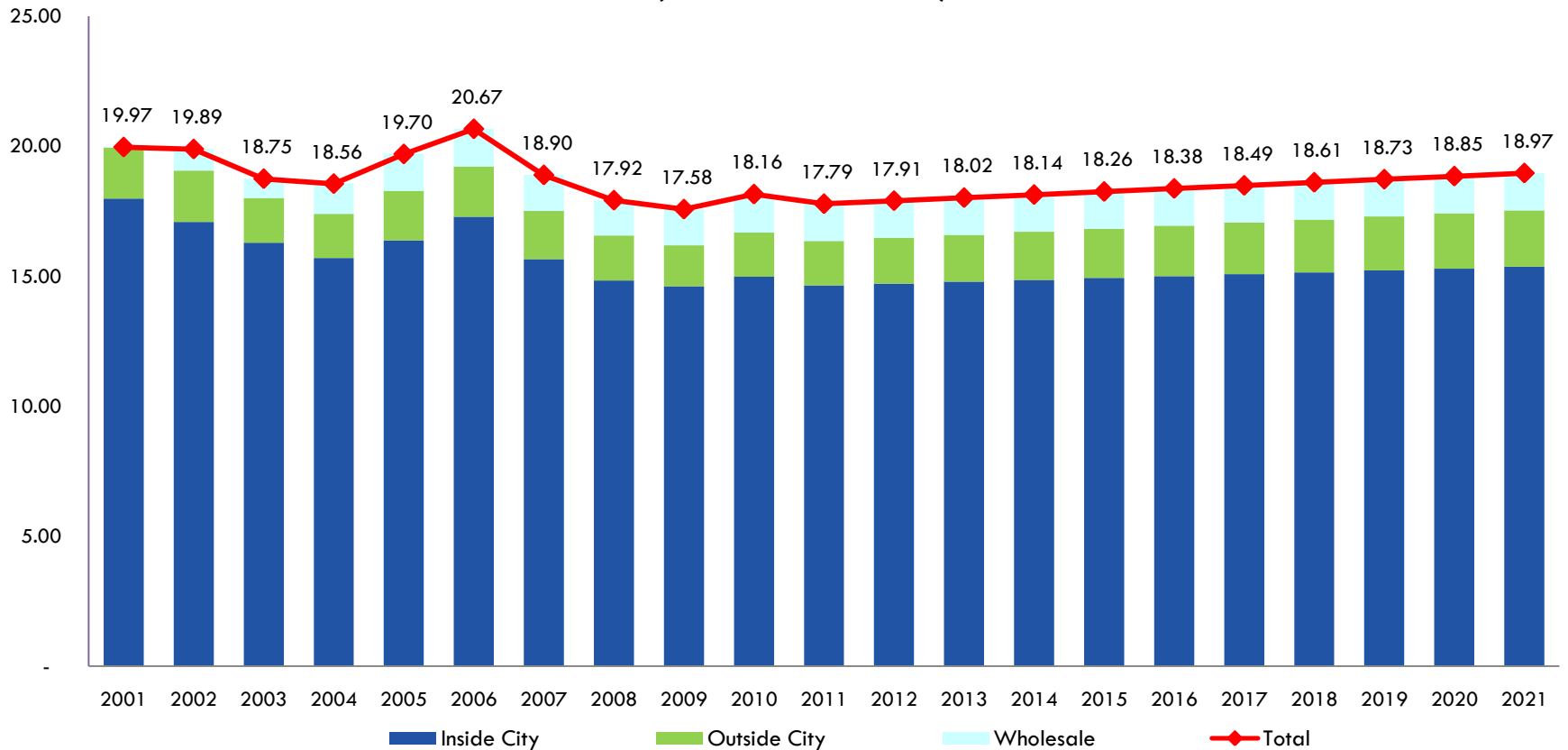
- The Goal: “Realistically Achievable” Forecast of Demand
 - ▣ Overly optimistic forecast results in rate increases that may be too low
 - Magnifies the impact of climate related rate revenue volatility
 - Increases the risk of debt service coverage non-compliance
 - ▣ Key assumptions in the RFC water demand forecast
 - Average consumption per account primarily based on actual 2009 and 2010 results
 - 0.33% annual growth in residential and commercial accounts
 - Detailed analysis of water demand by consumption block

Forecast of Billed Water Consumption (Billions of Gallons)											
Forecast	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
RFC	17.79	17.91	18.02	18.14	18.26	18.38	18.49	18.61	18.73	18.85	18.97
HDR	17.57	17.85	17.91	17.97	18.48	18.75	18.82	18.90	19.27	19.70	19.80

Water Demand Forecast

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Actual & Forecast Billed Water Consumption
(Billions of Gallons)



Water CIP Financing

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- Forecast 2011 – 2021 CIP Expenditures of \$427.4 million
 - ▣ CIP plan developed by Staff
 - ▣ Staff CIP plan includes construction cost inflation

- Water CIP Financing Sources
 - ▣ \$47.3 million unspent revenue bond proceeds at January 1, 2011
 - ▣ \$305.4 million net revenue bond proceeds from new issues
 - ▣ \$81.3 million rate revenue financing
 - ▣ Except for 2011 ASR notes issued to fund ASR Phase II – no additional general obligation debt

Water O&M Forecast

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- Forecast 2011 - 2021 O&M Expenditures of \$483.9 million
 - ▣ Based on 2011 adopted and 2012 approved Water Utility Fund budgets
 - ▣ Reflects the operating efficiencies gained from merging the Water Utilities Department into the Public Works Department
 - ▣ Forecast inflation based on consultations with City Staff

Forecast Water Utility O&M Expenditures											
Division	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Administration	\$9.60	\$10.06	\$10.64	\$11.03	\$11.56	\$12.12	\$12.72	\$13.29	\$13.80	\$14.33	\$14.82
Customer Service	\$1.72	\$1.82	\$1.87	\$1.93	\$2.00	\$2.07	\$2.15	\$2.23	\$2.31	\$2.39	\$2.50
Distribution	\$11.75	\$11.72	\$12.17	\$12.59	\$13.02	\$13.46	\$13.93	\$14.41	\$14.91	\$15.43	\$15.95
Production	<u>\$12.83</u>	<u>\$14.62</u>	<u>\$14.63</u>	<u>\$15.10</u>	<u>\$15.59</u>	<u>\$16.10</u>	<u>\$16.62</u>	<u>\$17.17</u>	<u>\$17.73</u>	<u>\$18.32</u>	<u>\$18.93</u>
Total	\$35.90	\$38.22	\$39.31	\$40.65	\$42.17	\$43.75	\$45.42	\$47.09	\$48.75	\$50.47	\$52.19
% Increase		6.46%	2.86%	3.41%	3.73%	3.76%	3.80%	3.69%	3.51%	3.53%	3.41%

Water Debt Service Forecast

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- Forecast 2011 – 2012 Debt Service of \$499.0 million
 - ▣ Includes existing water utility revenue bond debt
 - ▣ Includes general obligation debt for ASR Phase II
 - 2010 GO Notes of \$140 million
 - 2011 GO Notes of \$49 million
 - 2015 Refinance of GO Notes (20-year term at 5% interest)
 - ▣ Includes forecast new revenue bond issues
 - \$332 million total (20-year term at 6% interest)
 - \$305.4 million net proceeds after bond issuance costs

Forecast Water Utility Debt Service Expenditures											
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total	\$26.37	\$27.69	\$29.43	\$32.40	\$38.58	\$51.82	\$51.92	\$56.90	\$59.97	\$61.31	\$62.63
% Increase		4.98%	6.30%	10.07%	19.10%	34.32%	0.18%	9.59%	5.39%	2.25%	2.15%

Water Financial Plan Summary

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Metric	Forecast Water Utility Rate Increases (\$ Millions)										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
% Rate Increases		4.0%	5.0%	8.0%	8.0%	8.0%	6.0%	5.0%	5.0%	4.0%	3.0%
Operating Performance											
Revenue from Rate Increases	66.16	66.56	66.95	67.34	67.73	68.13	68.52	68.92	69.31	69.71	70.11
Revenue from Rate Increases	<u>0.00</u>	<u>2.66</u>	<u>6.16</u>	<u>12.08</u>	<u>18.54</u>	<u>25.59</u>	<u>31.39</u>	<u>36.60</u>	<u>42.11</u>	<u>46.84</u>	<u>50.62</u>
Total Water Rate Revenues	\$66.16	\$69.22	\$73.11	\$79.42	\$86.27	\$93.71	\$99.91	\$105.51	\$111.43	\$116.55	\$120.73
Total Non-Rate Revenues	<u>\$4.08</u>	<u>\$4.11</u>	<u>\$4.12</u>	<u>\$4.12</u>	<u>\$4.13</u>	<u>\$4.13</u>	<u>\$4.14</u>	<u>\$4.14</u>	<u>\$4.15</u>	<u>\$4.15</u>	<u>\$4.16</u>
Total Revenues	\$70.24	\$73.33	\$77.22	\$83.54	\$90.40	\$97.85	\$104.05	\$109.66	\$115.57	\$120.70	\$124.89
O&M Expenditures	35.90	38.22	39.31	40.65	42.17	43.75	45.42	47.09	48.75	50.47	52.19
Revenue Bond Debt Service	25.39	26.35	28.09	31.06	33.46	35.37	35.47	40.45	43.52	44.87	46.18
GO Debt Service	<u>0.99</u>	<u>1.34</u>	<u>1.34</u>	<u>1.34</u>	<u>5.13</u>	<u>16.45</u>	<u>16.45</u>	<u>16.45</u>	<u>16.45</u>	<u>16.45</u>	<u>16.45</u>
Operating Surplus / (Deficit)	\$7.97	\$7.42	\$8.48	\$10.49	\$9.65	\$2.27	\$6.72	\$5.67	\$6.86	\$8.92	\$10.06
Transfer Out to Fund CIP	<u>\$7.50</u>	<u>\$7.10</u>	<u>\$8.30</u>	<u>\$10.20</u>	<u>\$9.40</u>	<u>\$2.00</u>	<u>\$6.50</u>	<u>\$5.40</u>	<u>\$6.50</u>	<u>\$8.70</u>	<u>\$9.70</u>
Operating Reserves	\$0.47	\$0.32	\$0.18	\$0.29	\$0.25	\$0.27	\$0.22	\$0.27	\$0.36	\$0.22	\$0.36
Water Utility Fund											
Ending Balance	\$6.06	\$6.39	\$6.57	\$6.86	\$7.10	\$7.37	\$7.59	\$7.85	\$8.21	\$8.43	\$8.79
Revenue Bond DSCR	1.75	1.73	1.72	1.73	1.77	1.85	1.98	1.85	1.82	1.85	1.86
Revenue Bond & GO DSCR	1.68	1.65	1.64	1.66	1.54	1.26	1.35	1.31	1.32	1.35	1.37

Water Cost of Service Study

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Water Utility Revenue Requirement by Customer Class (\$ Millions)						
Customer Class	Volumetric Revenue Requirement	Fixed Revenue Requirement	Total Revenue Requirement	Revenue at Existing 2011 Rates	\$ Change	% Change
Residential	26.9	8.69	35.60	38.75	(3.16)	-8.15%
Residential - Lawn	0	0.01	0.02	0.02	(0.01)	-24.80%
Commercial	13.7	1.09	14.75	14.10	0.65	4.64%
Commercial - No Sewer	0.6	0	0.65	0.39	0.26	67.01%
Commercial - Lawn	<u>0.9</u>	<u>0.26</u>	<u>1.17</u>	<u>1.50</u>	<u>(0.33)</u>	<u>-21.88%</u>
Total Inside City Retail	\$42.10	\$10.50	\$52.18	\$54.76	\$2.58	-4.71%
Special Contract	\$1.60	\$0.03	\$1.62	\$0.87	\$0.75	86.13%
Private Fire Protection	0	0	0.09	0.08	0.01	17.57%
Public Fire Protection	0	<u>3.04</u>	<u>3.04</u>	<u>0.00</u>	<u>3.04</u>	-----
Total Fire Protection	\$0.00	\$3.04	\$3.13	\$0.08	\$3.05	-----
Total Inside City	\$43.70	\$13.12	\$56.93	\$55.70	\$1.22	2.19%
Total Outside City	\$7.60	\$0.82	\$8.37	\$8.08	\$0.28	3.52%
Total Wholesale	\$3.90	\$0.01	\$3.92	\$2.77	\$1.16	41.75%
Total Combined System	\$55.20	\$13.94	\$69.22	\$66.56	\$2.66	4.00%

Water Rate Design: Volumetric Rate Issues

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- Major Issue: Revenue Volatility
 - ▣ Rate design is a policy decision
 - Each utility must decide what portion of the total revenue requirement should be recovered from volumetric rates versus monthly fixed charges
 - ▣ A “Readiness to Serve” adjustment mitigates revenue volatility
 - Readiness to serve represents the cost a utility incurs to have the capacity available to meet any potential customer demand
 - For the water utility COSA, \$6.56 million of the 2012 volumetric revenue requirement was shifted to fixed charge cost recovery using an RTS adjustment

Water Rate Design:

Volumetric Rate Issues

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- No changes to the existing volumetric rate structure
 - The rate structure applied to most retail and wholesale customers sends a strong conservation price signal
 - Block 1 = Up to 110% of Average Winter Consumption
 - Block 2 = Between 111% - 310% of Average Winter Consumption
 - Block 3 = Over 310% of Average Winter Consumption
 - Existing outside city volumetric rates are 60% higher than inside city rates
 - Existing differential is consistent with COSA findings
- Multi-year phase-in to full cost volumetric rates
 - Special Contract: 5-year phase-in
 - Uniform Wholesale: 4-year phase-in
 - Wholesale: 4-year phase-in

Water Rate Design:

Proposed Volumetric Rates

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Proposed Volumetric Water Rates (\$ per Thousand Gallons)											
Customer Class	Existing 2011	Proposed 2012	Forecast				% Change				
			2013	2014	2015	2016	2012	2013	2014	2015	2016
Inside City Retail											
Block 1	\$1.43	\$1.52	\$1.63	\$1.81	\$2.01	\$2.22	6.29%	7.24%	11.04%	11.05%	10.45%
Block 2	\$5.42	\$5.49	\$5.87	\$6.38	\$6.97	\$7.85	1.29%	6.92%	8.69%	9.25%	12.63%
Block 3	\$8.15	\$8.29	\$8.56	\$9.32	\$10.19	\$11.46	1.72%	3.26%	8.88%	9.33%	12.46%
Inside City Special Contract	\$2.74	\$3.25	\$3.83	\$4.56	\$5.45	\$6.50	18.61%	17.85%	19.06%	19.52%	19.27%
Outside City Retail											
Block 1	\$2.29	\$2.44	\$2.61	\$2.90	\$3.22	\$3.56	6.55%	6.97%	11.11%	11.03%	10.56%
Block 2	\$8.68	\$8.79	\$9.40	\$10.21	\$11.16	\$12.56	1.27%	6.94%	8.62%	9.30%	12.54%
Block 3	\$13.05	\$13.27	\$13.70	\$14.92	\$16.29	\$18.34	1.69%	3.24%	8.91%	9.18%	1.69%
Outside City Special Contract	\$4.39	\$5.20	\$6.13	\$7.30	\$8.72	\$10.40	18.45%	17.88%	19.09%	19.45%	19.27%
Non-Potable Wholesale	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	0.00%	0.00%	0.00%	0.00%	0.00%
Uniform Wholesale	\$2.01	\$2.27	\$2.60	\$3.00	\$3.39	\$3.76	12.94%	14.54%	15.38%	13.00%	10.91%
Wholesale Water											
Block 1	\$1.53	\$1.75	\$1.97	\$2.27	\$2.54	\$2.81	14.38%	12.57%	15.23%	11.89%	10.63%
Block 2	\$7.94	\$9.09	\$10.24	\$11.80	\$13.21	\$14.62	14.48%	12.65%	15.23%	11.95%	10.67%
Block 3	\$11.87	\$13.59	\$15.31	\$17.65	\$19.76	\$21.87	14.49%	12.66%	15.28%	11.95%	10.68%

Water Rate Design:

Monthly Fixed Charge Issues

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- Major Issue: Existing Monthly Fixed Charges are Not Based on Industry Norms
 - Monthly fixed charges are designed to recover
 - Capacity costs that vary by meter size
 - Meter and service line costs
 - Readiness to serve costs based on potential demand
 - Billing and collection costs that do not vary by meter size
 - Standard industry practice is to develop fixed charge pricing based on meter flow rate equivalencies
 - Larger meters are allocated more costs because of their greater potential demand
 - Existing monthly fixed charges do not reflect industry standards
 - Fixed charge for a 12" meter is only \$35 more than a 5/8" meter

Water Rate Design:

Monthly Fixed Charge Issues

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- Meter flow rate equivalencies proposed by RFC for monthly fixed charge pricing are based on industry standards:

Meter Flow Equivalances	
5/8"	1.00
3/4"	1.00
1"	1.00
1-1/2"	2.00
2"	3.20
3"	7.00
4"	12.00
6"	25.00
8"	36.00
10"	58.00
12"	86.00

- To mitigate excessive bill impacts for customers with large meters, RFC's proposed monthly fixed charges reflect a 10-year phase-in to pricing based on industry standard meter flow equivalencies
- Existing outside city monthly fixed charges are 60% higher than inside city rates
 - Existing differential is consistent with COSA findings

Water Rate Design:

Proposed Monthly Fixed Charges

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Proposed Water Monthly Fixed Charges											
Meter Size	Existing 2011	Proposed 2012	Forecast				% Change				
			2013	2014	2015	2016	2012	2013	2014	2015	2016
Inside City											
5/8"	\$11.18	\$11.49	\$11.62	\$11.83	\$12.06	\$12.30	2.77%	1.13%	1.81%	1.94%	1.99%
3/4"	\$11.25	\$11.49	\$11.62	\$11.83	\$12.06	\$12.30	2.13%	1.13%	1.81%	1.94%	1.99%
1"	\$11.49	\$11.49	\$11.62	\$11.83	\$12.06	\$12.30	0.00%	1.13%	1.81%	1.94%	1.99%
1-1/2"	\$11.82	\$12.61	\$13.45	\$14.34	\$15.29	\$16.30	6.68%	6.66%	6.62%	6.62%	6.61%
2"	\$12.68	\$13.98	\$15.41	\$16.99	\$18.73	\$20.65	10.25%	10.23%	10.25%	10.24%	10.25%
3"	\$19.23	\$21.83	\$24.78	\$28.13	\$31.93	\$36.25	13.52%	13.51%	13.52%	13.51%	13.53%
4"	\$21.66	\$25.59	\$30.23	\$35.71	\$42.18	\$49.82	18.14%	18.13%	18.13%	18.12%	18.11%
6"	\$27.30	\$33.86	\$41.99	\$52.07	\$64.57	\$80.07	24.03%	24.01%	24.01%	24.01%	24.00%
8"	\$33.75	\$42.46	\$53.42	\$67.21	\$84.56	\$106.38	25.81%	25.81%	25.81%	25.81%	25.80%
10"	\$37.80	\$49.30	\$64.29	\$83.84	\$109.33	\$142.57	30.42%	30.41%	30.41%	30.40%	30.40%
12"	\$46.67	\$61.98	\$82.31	\$109.31	\$145.17	\$192.79	32.80%	32.80%	32.80%	32.81%	32.80%
Outside City											
5/8"	\$17.89	\$18.39	\$18.60	\$18.93	\$19.30	\$19.68	2.79%	1.14%	1.77%	1.95%	1.97%
3/4"	\$17.99	\$18.39	\$18.60	\$18.93	\$19.30	\$19.68	2.22%	1.14%	1.77%	1.95%	1.97%
1"	\$18.38	\$18.39	\$18.60	\$18.93	\$19.30	\$19.68	0.05%	1.14%	1.77%	1.95%	1.97%
1-1/2"	\$18.90	\$20.18	\$21.52	\$22.95	\$24.47	\$26.08	6.77%	6.64%	6.64%	6.62%	6.58%
2"	\$20.29	\$22.37	\$24.66	\$27.19	\$29.97	\$33.04	10.25%	10.24%	10.26%	10.22%	10.24%
3"	\$30.77	\$34.93	\$39.65	\$45.01	\$51.09	\$58.00	13.52%	13.51%	13.52%	13.51%	13.53%
4"	\$34.65	\$40.95	\$48.37	\$57.14	\$67.49	\$79.72	18.18%	18.12%	18.13%	18.11%	18.12%
6"	\$43.68	\$54.18	\$67.19	\$83.32	\$103.32	\$128.12	24.04%	24.01%	24.01%	24.00%	24.00%
8"	\$54.00	\$67.94	\$85.48	\$107.54	\$135.30	\$170.21	25.81%	25.82%	25.81%	25.81%	25.80%
10"	\$60.47	\$78.88	\$102.87	\$134.15	\$174.93	\$228.12	30.44%	30.41%	30.41%	30.40%	30.41%
12"	\$74.68	\$99.17	\$131.70	\$174.90	\$232.28	\$308.47	32.79%	32.80%	32.80%	32.81%	32.80%
16"	\$196.54	\$252.65	\$324.79	\$417.52	\$536.72	\$689.96	28.55%	28.55%	28.55%	28.55%	28.55%

Residential Water Bill Impacts

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Water Bill Impacts - Inside City Residential					
Actual Monthly Consumption	Winter Average Consumption	2011 Monthly Bill	2012 Monthly Bill	2012 Bill \$ Increase	2012 Bill % Increase
5/8" Meter					
3,000	3,000	\$15.47	\$16.05	\$0.58	3.75%
15,000	6,000	\$66.15	\$67.64	\$1.49	2.26%
22,500	6,000	\$117.44	\$119.73	\$2.29	1.95%
3/4" Meter					
3,000	3,000	\$15.54	\$16.05	\$0.51	3.28%
15,000	6,000	\$66.22	\$67.64	\$1.42	2.15%
22,500	6,000	\$117.51	\$119.73	\$2.22	1.89%
1" Meter					
3,000	3,000	\$15.78	\$16.05	\$0.27	1.71%
15,000	6,000	\$66.46	\$67.64	\$1.18	1.78%
22,500	6,000	\$117.75	\$119.73	\$1.98	1.68%

Commercial Water Bill Impacts

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Water Bill Impacts - Inside City Commercial					
Actual Monthly Consumption	Winter Average Consumption	2011 Monthly Bill	2012 Monthly Bill	2012 Bill \$ Increase	2012 Bill % Increase
1 1/2" Meter					
100,000	100,000	\$154.82	\$164.61	\$9.79	6.32%
5,050,000	5,050,000	\$7,233.32	\$7,688.61	\$455.29	6.29%
10,000,000	10,000,000	\$14,311.82	\$15,212.61	\$900.79	6.29%
2" Meter					
100,000	100,000	\$155.68	\$165.98	\$10.30	6.62%
5,050,000	5,050,000	\$7,234.18	\$7,689.98	\$455.80	6.30%
10,000,000	10,000,000	\$14,312.68	\$15,213.98	\$901.30	6.30%
3" Meter					
100,000	100,000	\$162.23	\$173.83	\$11.60	7.15%
5,050,000	5,050,000	\$7,240.73	\$7,697.83	\$457.10	6.31%
10,000,000	10,000,000	\$14,319.23	\$15,221.83	\$902.60	6.30%

Wholesale Bill Impacts

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Wholesale Water					
Actual Monthly Consumption	Winter Average Consumption	2011 Monthly Bill	2012 Monthly Bill	2012 Bill \$ Increase	2012 Bill % Increase
6" Meter					
1,000,000	1,000,000	\$1,573.68	\$1,804.18	\$230.50	14.65%
5,000,000	5,000,000	\$7,693.68	\$8,804.18	\$1,110.50	14.43%
9,750,000	9,750,000	\$14,961.18	\$17,116.68	\$2,155.50	14.41%

Sewer Utility COSA

Sewer Demand Forecast

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- Forecast Billed Sewer Volumes are Based on Winter Average Metered Water Consumption

- ▣ Sewer demand is less volatile than billed water consumption because it reflects estimated indoor water usage (no outdoor irrigation)

- ▣ Key assumptions in the RFC sewer demand forecast
 - Average consumption per account based on actual 2009 and 2010 results
 - Customer account growth rate that same as the water demand forecast
 - 0.33% annual growth in residential and commercial accounts

Sewer CIP Financing

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- Forecast 2011 – 2021 CIP Expenditures of \$304.7 million
 - ▣ CIP plan developed by Staff
 - ▣ Staff CIP plan includes construction cost inflation

- Sewer CIP Financing Sources
 - ▣ \$13.0 million unspent revenue bond proceeds at January 1, 2011
 - ▣ \$100.8 million net revenue bond proceeds from new issues
 - ▣ \$158.7 million net GO bond proceeds to pay for the Biological Nutrient Removal Project beginning in 2015
 - ▣ \$34.2 million rate revenue financing

Sewer O&M Forecast

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- Forecast 2011 - 2021 O&M Expenditures of \$343.2 million
 - ▣ Based on 2011 adopted and 2012 approved Sewer Utility Fund budgets
 - ▣ Reflects the operating efficiencies gained from merging the Water Utilities Department into the Public Works Department
 - ▣ Forecast inflation based on consultations with City Staff

Forecast Sewer Utility O&M Expenditures											
Division	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Administration	7.23	7.62	8.03	8.38	8.72	9.05	9.36	9.69	10.03	10.39	10.76
Treatment	12.12	12.78	12.74	13.16	13.60	14.06	14.53	15.02	15.52	16.05	16.61
Maintenance	6.92	7.19	7.02	7.28	7.55	7.84	8.14	8.45	8.77	9.11	9.48
Total	\$26.27	\$27.59	\$27.79	\$28.82	\$29.87	\$30.94	\$32.03	\$33.15	\$34.33	\$35.55	\$36.85
		5.00%	0.74%	3.70%	3.65%	3.58%	3.50%	3.52%	3.54%	3.56%	3.66%

Sewer Debt Service Forecast

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- Forecast 2011 – 2012 Debt Service of \$282.0 million
 - Includes existing sewer utility revenue bond debt
 - Includes forecast new revenue bond issues
 - \$109.6 million new revenue bonds (20-year term @ 6% interest)
 - \$100.8 million net proceeds after bond issuance costs
 - Includes forecast new GO bond issues
 - \$161.1 million new revenue bonds (20-year term @ 5% interest)
 - \$158.7 million net proceeds after bond issuance costs

Forecast Sewer Utility Debt Service Expenditures											
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total	\$19.18	\$21.47	\$22.32	\$23.51	\$24.62	\$26.04	\$25.02	\$26.82	\$28.25	\$31.25	\$33.72
% Increase		11.97%	3.94%	5.34%	4.73%	5.77%	-3.92%	7.21%	5.33%	10.60%	7.91%

Sewer Financial Plan Summary

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Metric	Forecast Sewer Utility Rate Increases (\$ Millions)										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
% Rate Increases		9.0%	8.0%	7.0%	6.0%	5.0%	5.0%	5.0%	5.0%	5.0%	4.5%
Operating Performance											
Revenue at Existing Rates	39.90	40.03	40.15	40.28	40.40	40.53	40.66	40.79	40.91	41.04	41.17
Revenue from Rate Increases	<u>0.00</u>	<u>3.60</u>	<u>7.11</u>	<u>10.46</u>	<u>13.54</u>	<u>16.29</u>	<u>19.19</u>	<u>22.25</u>	<u>25.49</u>	<u>28.90</u>	<u>32.14</u>
Total Sewer Rate Revenues	\$39.90	\$43.63	\$47.27	\$50.73	\$53.94	\$56.82	\$59.85	\$63.04	\$66.40	\$69.94	\$73.31
Total Non-Rate Revenues	<u>\$3.21</u>	<u>\$3.34</u>	<u>\$3.35</u>	<u>\$3.35</u>	<u>\$3.36</u>	<u>\$3.37</u>	<u>\$3.37</u>	<u>\$3.38</u>	<u>\$3.38</u>	<u>\$3.39</u>	<u>\$3.39</u>
Total Revenues	\$43.11	\$46.97	\$50.62	\$54.09	\$57.31	\$60.19	\$63.22	\$66.42	\$69.78	\$73.32	\$76.70
O&M Expenditures	26.27	27.59	27.79	28.82	29.87	30.94	32.03	33.15	34.33	35.55	36.85
Revenue Bond Debt Service	19.18	21.47	22.32	23.51	24.39	25.21	23.44	24.25	23.86	23.69	23.84
GO Debt Service	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.23</u>	<u>0.83</u>	<u>1.58</u>	<u>2.58</u>	<u>4.40</u>	<u>7.56</u>	<u>9.88</u>
Operating Surplus / (Deficit)	(\$2.34)	(\$2.08)	\$0.51	\$1.76	\$2.81	\$3.21	\$6.18	\$6.44	\$7.20	\$6.53	\$6.13
Transfer Out to Fund CIP	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$2.70</u>	<u>\$6.00</u>	<u>\$6.20</u>	<u>\$7.00</u>	<u>\$6.40</u>	<u>\$5.90</u>
Operating Reserves	(\$2.34)	(\$2.08)	\$0.51	\$1.76	\$2.81	\$0.51	\$0.18	\$0.24	\$0.20	\$0.13	\$0.23
Sewer Utility Fund											
Ending Balance	\$1.69	(\$0.39)	\$0.12	\$1.88	\$4.69	\$5.20	\$5.38	\$5.62	\$5.82	\$5.94	\$6.17
Revenue Bond DSCR	1.11	1.13	1.21	1.26	1.31	1.34	1.53	1.57	1.69	1.81	1.89
Revenue Bond & GO DSCR	1.11	1.13	1.21	1.26	1.29	1.30	1.43	1.42	1.43	1.37	1.34

Sewer Cost of Service Study

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Customer Class	Sewer Revenue Requirement by Customer Class (\$ Millions)					
	2012 Volumetric Revenue Requirement	2012 Customer Revenue Requirement	2012 Total Revenue Requirement	Forecast Revenue at Existing 2011 Rates	\$ Change	% Change
Inside City Volumetric	29.47	10.78	40.25	36.78	3.47	9.44%
Inside City Flat Rate	0.32	0.00	0.32	0.42	(0.11)	-25.24%
Outside City Volumetric	2.18	0.68	2.87	2.63	0.23	8.80%
Outside Flat Rate	0.07	0.00	0.07	0.09	(0.02)	-21.15%
Wholesale	<u>0.11</u>	<u>0.01</u>	<u>0.13</u>	<u>0.10</u>	<u>0.02</u>	<u>22.00%</u>
Total	\$32.15	\$11.48	\$43.63	\$40.03	\$3.60	9.00%

Sewer Rate Design:

Proposed Volumetric and Flat Rates

29

- No critical sewer revenue volatility issues
- No readiness to serve adjustment
- Existing outside city volumetric rates are 60% higher than inside city rates
 - Existing differential is consistent with COSA findings
- Four-year phase-in to full cost rates for wholesale sewer customer class

Proposed Sewer Volumetric Rates and Monthly Flat Rates (\$ per Thousand Gallons)											
Customer Class	Existing 2011	Proposed 2012	Forecast				% Change				
			2013	2014	2015	2016	2012	2013	2014	2015	2016
Volumetric											
Inside City	\$2.47	\$2.70	\$2.91	\$3.09	\$3.28	\$3.45	9.31%	7.78%	6.19%	6.15%	5.18%
Outside City	\$3.96	\$4.32	\$4.66	\$4.95	\$5.25	\$5.52	9.09%	7.87%	6.22%	6.06%	5.14%
Wholesale	\$1.81	\$1.99	\$2.17	\$2.39	\$2.65	\$2.80	9.94%	9.05%	10.14%	10.88%	5.66%
Flat Rate											
Inside City	\$22.34	\$22.34	\$22.34	\$22.34	\$22.34	\$22.34	0.00%	0.00%	0.00%	0.00%	0.00%
Outside City	\$35.75	\$35.75	\$35.75	\$35.75	\$35.75	\$35.75	0.00%	0.00%	0.00%	0.00%	0.00%

Sewer Rate Design:

Proposed Monthly Fixed Charges

30

- Existing outside city monthly fixed charges are 60% higher than inside city rates
 - Existing differential is consistent with COSA findings

Meter Size	Proposed Sewer Monthly Fixed Charges										
	Existing	Proposed	Forecast				% Change				
	2011	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Inside City											
5/8"	\$5.13	\$5.89	\$6.76	\$7.76	\$8.20	\$8.61	14.81%	14.77%	14.79%	5.67%	5.00%
3/4"	\$5.61	\$6.25	\$6.96	\$7.75	\$8.20	\$8.61	11.41%	11.36%	11.35%	5.81%	5.00%
1"	\$7.11	\$7.33	\$7.55	\$7.78	\$8.20	\$8.61	3.09%	3.00%	3.05%	5.40%	5.00%
1-1/2"	\$9.22	\$10.33	\$11.57	\$12.96	\$13.71	\$14.39	12.04%	12.00%	12.01%	5.79%	4.96%
2"	\$14.81	\$16.15	\$17.61	\$19.20	\$20.32	\$21.33	9.05%	9.04%	9.03%	5.83%	4.97%
3"	\$56.20	\$56.20	\$56.20	\$56.20	\$56.20	\$56.20	0.00%	0.00%	0.00%	0.00%	0.00%
4"	\$71.48	\$71.48	\$71.48	\$71.48	\$71.48	\$72.21	0.00%	0.00%	0.00%	0.00%	1.02%
6"	\$107.26	\$114.99	\$123.27	\$132.15	\$140.41	\$147.37	7.21%	7.20%	7.20%	6.25%	4.96%
8"	\$148.09	\$161.13	\$175.31	\$190.74	\$201.00	\$210.97	8.81%	8.80%	8.80%	5.38%	4.96%
10"	\$173.65	\$209.60	\$252.99	\$305.36	\$322.19	\$338.16	20.70%	20.70%	20.70%	5.51%	4.96%
12"	\$229.83	\$287.52	\$359.69	\$449.98	\$476.43	\$500.05	25.10%	25.10%	25.10%	5.88%	4.96%
Outside City											
5/8"	\$8.20	\$9.43	\$10.82	\$12.42	\$13.12	\$13.78	15.00%	14.74%	14.79%	5.64%	5.03%
3/4"	\$8.98	\$10.00	\$11.14	\$12.40	\$13.12	\$13.78	11.36%	11.40%	11.31%	5.81%	5.03%
1"	\$11.38	\$11.73	\$12.08	\$12.45	\$13.12	\$13.78	3.08%	2.98%	3.06%	5.38%	5.03%
1-1/2"	\$14.76	\$16.53	\$18.52	\$20.74	\$21.94	\$23.03	11.99%	12.04%	11.99%	5.79%	4.97%
2"	\$23.69	\$25.84	\$28.18	\$30.72	\$32.52	\$34.13	9.08%	9.06%	9.01%	5.86%	4.95%
3"	\$89.91	\$89.92	\$89.92	\$89.92	\$89.92	\$89.92	0.01%	0.00%	0.00%	0.00%	0.00%
4"	\$114.36	\$114.37	\$114.37	\$114.37	\$114.37	\$115.54	0.01%	0.00%	0.00%	0.00%	1.02%
6"	\$171.62	\$183.99	\$197.24	\$211.44	\$224.66	\$235.80	7.21%	7.20%	7.20%	6.25%	4.96%
8"	\$236.95	\$257.81	\$280.50	\$305.19	\$321.60	\$337.56	8.80%	8.80%	8.80%	5.38%	4.96%
10"	\$277.84	\$335.36	\$404.79	\$488.58	\$515.51	\$541.06	20.70%	20.70%	20.70%	5.51%	4.96%
12"	\$367.73	\$460.04	\$575.51	\$719.97	\$762.29	\$800.08	25.10%	25.10%	25.10%	5.88%	4.96%

Sewer Rate Design:

Proposed Extra Strength Surcharges

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- Four-year phase-in to full cost rates for total suspended solids
- Existing outside city extra strength surcharges are 60% higher than inside city rates
 - Existing differential is consistent with COSA findings

Proposed Sewer Extra Strength Surcharges (\$ per Pound)											
Customer Class	Existing 2011	Proposed 2012	Forecast				% Change				
			2013	2014	2015	2016	2012	2013	2014	2015	2016
Inside City											
BOD	\$0.1627	\$0.1744	\$0.1883	\$0.2015	\$0.2136	\$0.2243	7.18%	8.00%	7.00%	6.00%	5.00%
TSS	\$0.1083	\$0.1213	\$0.1368	\$0.1549	\$0.1760	\$0.2003	12.02%	12.73%	13.25%	13.60%	13.82%
OG	\$2.1113	\$2.3538	\$2.6299	\$2.9645	\$3.4000	\$3.8792	11.48%	11.73%	12.72%	14.69%	14.09%
Outside City											
BOD	\$0.2603	\$0.2790	\$0.3013	\$0.3224	\$0.3418	\$0.3589	7.19%	8.00%	7.00%	6.00%	5.00%
TSS	\$0.1733	\$0.1941	\$0.2188	\$0.2478	\$0.2815	\$0.3205	12.01%	12.73%	13.25%	13.60%	13.82%
OG	\$3.3782	\$3.7660	\$4.2079	\$4.7432	\$5.4401	\$6.2067	11.48%	11.73%	12.72%	14.69%	14.09%

Residential Sewer Bill Impacts

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Sewer Bill Impacts - Inside City Residential					
Actual Monthly Consumption	Winter Average Consumption	2011 Monthly Bill	2012 Monthly Bill	2012 Bill \$ Increase	2012 Bill % Increase
5/8" Meter					
3,000	3,000	\$12.54	\$13.99	\$1.45	11.56%
15,000	6,000	\$19.95	\$22.09	\$2.14	10.73%
22,500	6,000	\$19.95	\$22.09	\$2.14	10.73%
3/4" Meter					
3,000	3,000	\$13.02	\$14.35	\$1.33	10.22%
15,000	6,000	\$20.43	\$22.45	\$2.02	9.89%
22,500	6,000	\$20.43	\$22.45	\$2.02	9.89%
1" Meter					
3,000	3,000	\$14.52	\$15.43	\$0.91	6.27%
15,000	6,000	\$21.93	\$23.53	\$1.60	7.30%
22,500	6,000	\$21.93	\$23.53	\$1.60	7.30%

Commercial Sewer Bill Impacts

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Sewer Bill Impacts - Inside City Commercial					
Actual Monthly Consumption	Winter Average Consumption	2011 Monthly Bill	2012 Monthly Bill	2012 Bill \$ Increase	2012 Bill % Increase
1 1/2" Meter					
100,000	100,000	\$256.22	\$280.33	\$24.11	9.41%
5,050,000	5,050,000	\$12,482.72	\$13,645.33	\$1,162.61	9.31%
10,000,000	10,000,000	\$24,709.22	\$27,010.33	\$2,301.11	9.31%
2" Meter					
100,000	100,000	\$261.81	\$286.15	\$24.34	9.30%
5,050,000	5,050,000	\$12,488.31	\$13,651.15	\$1,162.84	9.31%
10,000,000	10,000,000	\$24,714.81	\$27,016.15	\$2,301.34	9.31%
3" Meter					
100,000	100,000	\$303.20	\$326.20	\$23.00	7.59%
5,050,000	5,050,000	\$12,529.70	\$13,691.20	\$1,161.50	9.27%
10,000,000	10,000,000	\$24,756.20	\$27,056.20	\$2,300.00	9.29%

Combined Water & Sewer Bills

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COMBINED MONTHLY WATER & SEWER BILLS FOR 2012				
	Current	Proposed	Difference	Change
-				
<u>Residential Customers – 1" Meter</u>				
3,000 Gallons	\$30.30	\$31.48	\$1.18	3.9%
15,000 Gallons	\$88.39	\$91.17	\$2.78	3.1%
22,500 Gallons	\$139.68	\$143.26	\$3.58	2.6%
<u>Commercial Customers – 2" Meters</u>				
100,000 Gallons	\$417.49	\$452.13	\$34.64	8.3%
<u>Industrial Customers</u>				
10 Million Gallons	\$39,027.49	\$42,230.13	\$3,202.64	8.21%

Overall Revenue Increase

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REVENUE INCREASES FROM RATE RESTRUCTURING										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Water	4.0%	5.0%	8.0%	8.0%	8.0%	6.0%	5.0%	5.0%	4.0%	3.0%
Sewer	9.0%	8.0%	7.0%	6.0%	5.0%	5.0%	5.0%	5.0%	5.0%	4.5%
Combined *	5.9%	6.2%	7.6%	7.2%	6.9%	5.6%	5.0%	5.0%	4.4%	3.6%

** Weighted average based on water and sewer utility revenue contributions*